DIGITAL FM STEREO DECODER AND METHOD OF OPERATION

Abstract of the Disclosure

A cost effective digital stereo decoder (216) for Digitized Intermediate Frequency (DIF) FM radio receiver (100). After FM demodulation (212), a multiplex signal (MPX) at a high sampling rate is mixed with free-running local quadrature mixers (308, 320) to shift the (L-R) stereo signal to baseband. The MPX signal is also mixed with a free-running locally generated carrier signal to translate an embedded 19KHz pilot tone signal to 1KHz. The pilot tone signal is decimated to a low sampling rate to permit a phase-lock loop (PLL) to be applied to the lower rate signal to estimate the phase of the pilot signal. An FM blender controller is used to attenuate high frequency noise and improve audio quality. The receiver may be implemented in software and be customer configurable to have various operating characteristics.